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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CAVITY FILLING BIOPSY SITE MARKER

(57) Abstract: The invention provides materials, devices and methods for marking biopsy sites for a limited time. The biopsy-marking materials are ultrasound-detectable bio-resorbable powders, with powder particles typically between about 20 microns and about 800 microns in maximum dimension, more preferably between about 300 microns and about 500 microns. The powders may be formed of polymeric materials containing cavities sized between about 10 microns and about 500 microns, and may also contain binding agents, anesthetic agents, hemostatic agents, and radiopaque markers. Devices for delivering the powders include tubes configured to contain the powders and to fit within a biopsy cannula, the powders being ejected by action of a syringe. Systems may include a tube containing powder, and a syringe containing sterile saline. The tube may be configured to fit within a biopsy cannula such as a Mammotome® or SenoCor 360™ cannula.

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INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K49/04 A61K49/06 A61K49/18 A61K49/22 A61B19/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 89 06978 A (SCHERING AG) 10 August 1989 (1989-08-10) page 4, line 1 - line 33 page 5, lines 23-25 page 5, line 1 - line 33 examples 1-27	1,7-9, 11,12
X	US 5 508 021 A (SOON-SHIONG PATRICK ET AL) 16 April 1996 (1996-04-16) column 11, line 50 - line 65 column 12, line 16 - line 34 column 13, line 18 - line 19 column 15, line 50-53 column 36; claim 2 column 37; claims 9-12 ----- -/-	1-6,11, 18,19,23



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

24 November 2003

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08.12.03

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 161 034 A (FORCIER NANCY ET AL) 12 December 2000 (2000-12-12)	27-30, 32,33, 35,36, 38-43, 57,58, 70-75
Y	column 7, line 47 -column 8, line 11 column 13, line 34 - line 54	31,34, 37,44, 59-61, 69,70
Y	WO 01 08578 A (WALBRINK HAROLD J ;BUCK RICHARD A (US); FAWZI NATALIE V (US); HOOD) 8 February 2001 (2001-02-08) page 44, paragraph 1 page 56, paragraph 1	31,37, 59-61, 69,70
Y	US 2001/034528 A1 (BURBANK FRED H ET AL) 25 October 2001 (2001-10-25) paragraph '0076!	34,44

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/11767

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 50-55, 62-66
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 50-55 and 62-66 is related to subject-matter considered by this Authority to be covered by the provisions of Rule 39 (iv) PCT.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-26, 45-49 and 69

An ultrasound-detectable biopsy marker mass formed of particles of a bio-resorbable material having bubble cavities and methods for preparing said marker mass.

2. Claims: 27-44, 50-68 and 70-75

Systems and assemblies for delivering a biopsy marker mass or for marking a biopsy site in a patient.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/11767

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